

REMARKS

Applicants request the Examiner to reconsider the application in view of the following remarks. Claims 1, 2, 4-6 and 13-15 are currently pending. Claims 7 to 11 have been withdrawn from consideration after a restriction requirement. Claim 12 has been cancelled. Claim 1 was amended to introduce the limitation from claim 12. Claims 13 and 14 were amended to correct dependency. Claim 15 is newly presented. Support for claim 15 is found *inter alia* in paragraphs [0044] and [0045] of the application specification.

Claims 1, 2, 4-6 and 12-14 were rejected under 35 U.S.C. § 103(a) as purported to be obvious over U.S. Pat. No. 4,578,406 to Volz (hereinafter "Volz") in view of U.S. Pat. No. 3,822,807 to MacDonald et al. (hereinafter "MacDonald"). The Examiner states that Volz discloses reticulated polyurethane foams having a volume electrical resistivity of less than 10^{12} ohm-cm at 70 °F, which can be installed in fuel tanks to suppress explosions, but does not disclose a foam density of less than 1.0 pounds per cubic foot (pcf). The Examiner then contends that MacDonald discloses explosion-suppressing polyurethane foams having density less than 1.0 pcf. Applicants respectfully traverse the rejection as to claim 1 as amended.

Pending claim 1 is directed to a method for suppressing an explosion in a fuel tank. This method comprises the step of installing into a tank a reticulated polyurethane foam having (1) a density of less than 1.0 pcf, and (2) a volume electrical resistivity of less than 10^{12} ohm-cm at 70 °F. Such foam further incorporates antistatic agents, which are added in situ in the foam forming mixture.

Volz discloses reticulated, conductive polyurethane foams having a volume electrical resistivity of less than 10^{13} ohm-cm, which can be installed in fuel tanks to suppress explosions. However, as the Examiner has recognized, Volz does not disclose a foam density of less than 1.0 pcf. *See, e.g.*, Example 1 at column 5, lines 62 to 65 and Example 4 at column 6, lines 24 to 27, where the foam density is disclosed as 1.3 pcf. Volz does not teach or suggest that lowering the density of these foams would be desirable.

In addition, Volz seeks to interpenetrate the foam with a chemical additive, such as a charge agent, *after* the foam has been formed, and expressly teaches away from in situ

incorporation. Column 2, lines 3 to 24. Volz thus leads persons skilled in the art away from in situ combinations of foaming mixtures with anti-static agents. Yet, claim 1 of the present application as amended requires anti-static agents be combined in situ.

MacDonald installs polyester foam balls, which are openly reticulated, into a container (such as a fuel tank) for explosion suppression. MacDonald's foam balls are created from foams with densities from 12 to 30 kg/m³, preferably from 12 to 15 kg/m³ (i.e., less than 1 pcf). Column 1, line 28 and column 2, lines 14-15. MacDonald does not include any antistatic additives in the foam and does not mention electrical resistivity or any problems encountered with charge build up within the tank. The combination of Volz and MacDonald would not result in the method set out in claim 1 since neither reference shows in situ antistatic agent addition.

For a claim to be obvious in view of combined teachings of two or more references, there must be some suggestion or motivation to combine the references so as to encompass the claimed invention. *In re Vaeck*, 947 F.2d 488, 493 (Fed. Cir. 1991). In other words, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so." See MPEP § 2143.01 (citing *In re Kahn*, 441 F.3d 977, 986 (Fed. Cir. 2006)). Without such a suggestion or motivation to combine references, a *prima facie* case of obviousness is not established. See MPEP § 2142.

There is no suggestion or motivation for combining Volz and MacDonald so as to encompass the method of claim 1. As pointed out above, Volz provides no motivation to persons skilled in the art that the reticulated foams taught by Volz would be improved by lowering density, and Volz expressly teaches away from in situ incorporation of chemical additives, such as anti-static agents. For its part, MacDonald does show lower density foams, but MacDonald does not motivate a skilled person to reject the express teaching away from in situ chemical addition set forth in Volz.

Since there is no suggestion or motivation for combining Volz and MacDonald to encompass claim 1, the Examiner has failed to establish that claim 1 is *prima facie* obvious.

Application No. 10/710,494
Response dated May 21, 2007
Reply to Office Action of March 1, 2007

Docket No.: 00124-01080-US

Furthermore, since claims 2, 4-6 and 13-15 all depend directly or indirectly from claim 1, the Examiner has also failed to establish that these claims are *prima facie* obvious. Therefore, Applicants respectfully request that the above rejections be withdrawn.

In view of the above remarks, Applicants believe the pending application is in condition for allowance.

Applicants believe no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 03-2775, under Order No. 00124-01080-US from which the undersigned is authorized to draw.

Dated: May 21, 2007

Respectfully submitted,



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